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## A NEW HYDRA

BY M. J. ELROD, UNIVERSITY OF MONTANA, AND  
MAURICE RICKER, BURLINGTON (IOWA) HIGH SCHOOL

During the summer session of the University of Montana Biological Station, we found what is believed to be a new hydra. It was taken in large numbers from Echo Lake, Flathead county, Montana. It has not been found in any of the other numerous streams or lakes in this vicinity, and so far as is known no other hydra has ever been collected in the state.<sup>1</sup>

The following are some of the most noticeable characteristics: The animals are conspicuous on account of their bright coral red color and large size. In fact, one can recognize them as hydrae while standing erect on the logs. A fair sample of the larger ones measured, when feeding, 16 mm. long from the mouth to the distal end. None of the tentacles of this hydra were less than 38 mm. long, measured from the mouth to the end, and the longest was 43 mm., making a total length from tip to tip of 59 mm.

When feeding, the tentacles seem capable of unusual extension until they seem a mere thread, bearing noticeably large nematocysts, like beads strung on a string.

The color is a deep bright coral red, most intense near the proximal end and seems to be distributed in chloroplast-like granules as in *H. viridis*. It is apparently constant and may possibly be due to symbiotic algae, although indications are to the contrary.

Since the waters of Echo Lake contain large numbers of a reddish *Daphnia*, and, thinking the question of their effect on the color of the hydra would arise, a number of the latter were taken alive and fed for five weeks upon colorless entomostraca, from Flathead Lake, at the Station laboratory. While they did not seem to thrive, no noticeable dimming of the color bodies was observed.

The hydrae were found early in July, 1901. There was little time or facilities for delicate histological work, and the lack of the literature compelled us to defer more careful examination until a more convenient time.

<sup>1</sup>Since the above has been in type Prof. R. A. Cooley reports finding a hydra sparingly in the eastern part of the state.

The striking color, the large size, the isolation of the animals from related forms, the apparent division of the body into a stalk and an enlarged gastric cavity of about equal length, the removal of gonads and buds beyond this apparent division, altogether seemed to make it worthy of this preliminary note. Careful histological examination will be immediately made, and should the characters enumerated, together with others which may be revealed, prove constant and new, as it is believed they will, the name *Hydra corala* is proposed for the species.

Echo Lake, in which the hydra was found, lies in the valley close to the foot-hills, west of the Swan Range of the Kootenai Mountains, a few miles northeast of the Biological Station. It is narrow, with a total length of twelve or fourteen miles. It may be the old bed of a river which, in earlier days, flowed through the valley until dammed by a moraine. The lake now has no surface outlet, the water probably escaping through underground channels or seepage. Notwithstanding, it contains five or six species of fish and numerous species of entomostraca.

In 1894 the water in the lake suddenly rose about twelve feet above its former level, submerging portions of timbered lands about the lake borders and a meadow. The water has remained at this higher level since that time.

At the upper end of the lake a rancher took up his claim when the water was at the lower stage. He built a log bridge over the little stream which flowed into the lake at this point and erected some log buildings in the meadow. The rising water floated the bridge and came up to the top of his door and windows. It was about this bridge, attached to boards and roots of grasses growing between the logs, that the hydrae were found.

Echo Lake affords a good field for further biological study. Its waters are held in by a moraine and have no connection with other bodies of water at any season of the year, unless by unknown underground channels. Among other interesting collections was a *Polygonum* which seems to have made important adaptations to its new conditions. The potamogetons were exceedingly long, and there is no doubt other evidence of a quick response to changed environment could be easily found. The further study of this lake will be undertaken by the members of the Station staff and their students next season.